

November 14, 1996

To: all
From: Doug George
Topic: Storing Event Messages.

This memorandum concerns the logging of event messages and the retrieval of event messages from the DMG.

DMG team asked for a rough estimate of the number of event messages that will be saved on CCS per day. These figures will help DMG team to determine the optimal method to store event messages. Here are the following proposed solutions for DMG as I understand them:

- Save in an Oracle Data Base temporarily and then transfer the event messages to a long term archive.
- Save in a long term archive.

The following are the requirements EVT needs from the DMG:

- EVT will pass DMG event messages as objects to be saved
- CCS processes will need to retrieve historical event messages back from the DMG as objects by specifying a time span.

Note: EVT does not care how DMG saves event messages; flat files or database. As long as EVT can send event messages as objects (one at a time or a set) and retrieve as a set of objects based on a time frame.

Yesterday, November 13, 1996, Wednesday, I ventured to HST operations in Building 3/14 and counted the number of event messages for DOY 317 and DOY 305. As many of you recall DOY 305 was the HST momentum wheel anomaly. DOY 317 was a nominal operational day. The following are the results of this search:

- DOY 317 (nominal operational day) ⇒ 9,424 event messages
- DOY 305 (day with anomaly) ⇒ 28,148 event messages

The following Table represents the event message class whose attributes must be saved and retrieved.

Attribute	Data Type	Bits
ID_Number	Short	16
CCS_Time	Double	64
Type	Short	16
Severity	Short	16
Operational Mode	Short	16
Source_Subsystem	Short	16
Source_Node	Short	16
Source_ProcessName	Short	16
Source_PID	Integer	32
Foreground Data	Linked List	0 minimum
Background Data	100 ASCII Characters	800 maximum
Minimum Size		1008
Average Size (Foreground = 2 float elements & an 8 character ASCII element)		1136 (142 bytes)

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CCS will probably create twice as many event messages than the PRS system currently generates. This is due to added functionality of CCS. The following estimate was generated based on the above figures:

Minimum number of events saved per nominal day on CCS:	19,000
Minimum data size to be saved per nominal day on CCS:	2.7 Mb (21,600,000 bits)
Minimum number of events saved per anomalous day on CCS:	56,000
Minimum data size to be saved per anomalous day on CCS:	8.0 Mb (63,600,000 bits)

Thanks

Doug